

Notice of Allowability**Application No.**

09/873,656

Examiner

Lamont M Spooner

Applicant(s)

XUN ET AL.

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/29/2004.
2. ☒ The allowed claim(s) is/are 1-10, 12-20.
3. ☒ The drawings filed on 04 June 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 9/30/04 .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with applicant's representative Joseph R. Kelly, reg.# 34847, on September 30, 2004.

Amend the application as follows:

In the claim:

In claim 10, page 4, after line 2, insert --a POS tagger, coupled to the baseNP identifier, receiving the natural language input and calculating the N-Best POS tag sequences corresponding to the natural language input.--

Cancel claim 11.

In claim 12, page 4, line 1, after "claim", replace "11" with --10--.

Response to Arguments

3. Applicant's amendment filed Jul. 29, 2004, with respect to claims 1, 10 and 17, have amended the claims to the original form. The **35 USC § 112** rejections of claims 1-10, 11-20 have been withdrawn.

Applicant's arguments, see amendment, filed Feb. 24, 2004, with respect to portions of the applicant's arguments for allowability of claims as originally presented

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have been fully considered and are persuasive. The **35 USC § 103** rejection of claims 1-20 have been withdrawn.

Allowable Subject Matter

4. Claims 1, 10, and 17 allowed.

5. The following is an examiner's statement of reasons for allowance:

The instant application is directed towards a non-obvious improvement over the closest art of Church (US Patent No. 5,146,405, Sep. 8, 1992) and Manning and Schutze, *Foundations of Statistical natural Language Processing*, MIT Press, 1999. Church teaches using all possible part of speech (POS) sequences to obtain a best POS sequence, which then is used to determine a likely best noun phrase sequence, and Manning teaches having N-best POS sequences. The improvement comprises using multiple best part of speech sequences to identify a likely base noun phrase sequence.

Claims 2-9, 12-16, and 18-20 are allowable as they further limit their parent claims.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

7. Claims 1-10, 12-20, have been renumbered as claims 1-19, respectively.

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8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Duan et al. (US Patent No. 6,721,697) teaches identifying n-best POS sequences.
- Carus et al. (US Patent No. 5,680,628 Oct. 21, 1997) teaches using multiple tags for a sequence of tokens and disambiguating the POS of the tokens, for identifying a part of a noun phrases.
- Carus (US Patent No. 5,890,103 Mar. 30, 1999) teaches identifying a plurality of tags for a plurality of tokens in a sequence, and using them for identifying a noun phrase.
- Coughlin (US Patent No. 5,878,386 Mar. 2, 1999) teaches identifying multiple POS for a sequence of words, and computing POS probability score, wherein the most probably POS is passed to a parser.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lamont M Spooner whose telephone number is 703/305-8661. The examiner can normally be reached on 8:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on 703/305-9645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

lms
09/22/2004


RICHEMOND DORVIL
SUPERVISORY PATENT EXAMINER